

World Pediatrics 2019: Understanding genetic and cultural disparity in management of type 2 diabetes - Nuzhat Chalisa - Morris Health System, USA

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Today, it is well established that development of type 2 Diabetes results from an interaction between individual biological and genetic makeup and environmental factors. Type 2 Diabetes has been disproportionately increasing in minority populations. Non-Caucasian populations, such as Hispanics, African-Americans, American Indians, and Asians are much more likely to develop type 2 Diabetes and less likely to maintain effective control. Certain ethnic populations have higher risk of complications from Diabetes like Coronary Artery Disease, limb amputations, Retinopathy and kidney failure. Several pathophysiological studies have documented a higher prevalence of insulin resistance in these populations, even after correcting for obesity and lifestyle factors. Based on CDC data from 2017, over 23 million Americans have been diagnosed with type 2 Diabetes and another 7 million are suffering from undiagnosed diabetes. Out of the 23 million, 15.1% are American Indian, 12.1% are African American, 12.7 % are Hispanic and Native American, 8% are Asian American, and 7.4 % are Caucasian. Among the Asian sub-groups, South Asians had the highest prevalence. South Asians are

shown to have more insulin resistance and rapid decline in beta cells at a younger age compared to Caucasians. It has also been postulated that early impairment of beta cell function in certain ethnic minorities could be due to under nutrition that leads to abnormal pancreatic development, however data supporting this hypothesis is inconclusive. Another important factor is cultural perception of health. Despite academic interest, participation of minorities in clinical trials is very scant. Diabetes education plays an important role in Diabetes self-management. Awareness of the need for cultural sensitivity is the first step towards providing sensitive and competent Diabetes education. The large scope of Diabetes in minority population with diverse genetic and cultural backgrounds calls for more therapeutic trials involving minority populations and an investigation into the cause of increased susceptibility and preventive efforts at an individual and population level. Genetic cultural diversity should be considered when making guidelines. It is imperative that practitioners and policymakers address these ethnic disparities with a sense of urgency.